

ARTICLE

Feminist Imaginations in a Heated Climate: Parody, Idiocy, and Climatological Possibilities

Claire Brault
Brown University
claire_brault@brown.edu

Abstract

This paper proposes to imagine an alternative climate scenario of our future. Through a parodic rewrite of Intergovernmental Panel on Climate Change (IPCC) climate scenarios, I challenge the rise of geoengineering technologies as a mitigation "solution" for the current ecological crisis. Showing that the IPCC is offering capitalocentric visions of ecological futurity and more-than-human economies that contribute to mainstreaming dangerous, hubristic geoengineering, I advance that feminist imagination and conviviality is a more capacious way to face climate change, one that climatology would benefit learning from. I do this drawing from Isabelle Stengers' conceptualization of stupidity, which I argue can describe the IPCC's futurology, and from her figuration of the idiot, a conceptual character who poses questions that cause us to pause and think, opening up possibilities.

Brault, C. (2017). Feminist Imaginations in a Heated Climate: Parody, Idiocy, and Climatological Possibilities. *Catalyst: Feminism, Theory, Technoscience*, 3(2), 1-33
<http://www.catalystjournal.org> | ISSN: 2380-3312
© Claire Brault, 2017 | Licensed to the Catalyst Project under a Creative Commons Attribution Non-Commercial No Derivatives license

Introduction

While in the last fifteen years many geologists have argued over the dating and periodization of our current epoch, many feminist voices have problematized the *Anthropos* of the increasingly scientifically consensual term *Anthropocene*, objecting that its universal pretensions masks unequal responsibilities and effects.¹ Yet, while in the humanities so many critiques of the Anthropocene start by specifying that Paul Crutzen popularized this term (2002), they often fail to mention that he was also the first scientist to break the ice on the subject of geoengineering (2006). In addition, the boom reacting to Crutzen's anthropocenic intervention occurs years after the "anthropogenic" qualification of climate change. The latter emerged in its global institutionalized form with the creation of the Intergovernmental Panel on Climate Change (IPCC) in 1988 and has not yet become the object of substantial conceptual critique. This lack of critical scrutiny regarding the "Anthropos" of "anthropogenic" global heating persists even though the date used by the thousands of climate scientists required to reach consensus in consultation with worldwide states is treated as clear, in contrast to the contested starting point of the Anthropocene. Namely, the IPCC (2013) draws its "anthropogenic" conclusions by comparing temperatures and greenhouse gases after 1750 with millennia of "pre-industrial" data. Insofar as the diagnosis raises the question of whether "we"—who heated the Earth to the point of compromising future generations' ability to say "we" again—became "human" in 1750, climate "anthropogenesis" stages a hasty equation between *Homo sapiens* and *Homo oeconomicus*, with "his" universal pretensions. This capitalocentric analysis does not stop at *past* data: the climate models cited by the IPCC also presume the *future* predominance of capitalism even a century from now—arguably exacerbated by the formation of carbon markets and possible geoengineering, all in the name of mitigating "solutions."

The relative lack of critique of this "anthropogenic" qualification (compared to the critiques of "Anthropocene" abstraction) might be

attributed in part to a perceived need to tighten up ranks² against the ill-named “climate skeptics” or “deniers,” long fed funding by oil companies and now triumphing (for instance, with the 2016 US election). But while the oil industry notoriously pursued research corroborating the claim that global warming was caused by all-too-specific oil-addicted humans as early as the 1980s, only to promptly fuel research attempting to refute this very claim later on, a far less notorious fact is that the same companies now fund geoengineering research (Hamilton, 2013). It turns out that a certain TechnoScientific³ confidence makes strange bedfellows of “skeptics” thirsty for lucrative carbon-credits-emitting technologies and climate scientists believing in a unified Truth as a foundation for dangerous high-technofixes. Universalizing claims about the “man”-made nature of past and present global heating risks creating a Scientific climate of technocratic omnipotence apt to justify future ecologically, politically destructive “solutions.”

These objections could be dismissed as divisive of the environmentalist movement. But, to the contrary, critical, pluralist, contestatory feminist examination of Climate Science, and continued (re-)invention of feminist sciences have never been more needed.⁴ When we accept the simplistic perception that there are only two sides to climate debates, with only one that recognizes “human” impact, the unequal contributions to and effects of climate change on more-than-human lives are erased and hubristic TechnoScience, rather than more nuanced scientific and technological theories and practices, are deemed justified. This need for pluralizing and contestation defies the commonly held but deceptive perception of the climate crisis as an example of how much environmentalism and feminism need Science (the former being assumed as outside the latter). Instead, climate change might offer a telling example of how badly the sciences need feminist environmentalist imagination.

What would feminist climatological imagination look like? Here, as with the case of Haraway’s (2016) critique of the Anthropocene (she invokes the Capitalocene, the Industriocene, the Plantationocene, and the

Chthulucene), a proliferation of terms is helpful. Global warming might be hypothesized as “anthropogenic” if, armed with feminist theory, we underscore problematic entanglements among the Man of humanism, the Man of Western modernity, of capitalism, of plantation, of industrial revolution, contrasting this universalized story with the immense multitude of Earth dwellers struggling to seek refuge in a new climate. Capitalogenic, industriogenic, plantationogenic, chthulugenic climates beg to be reimagined.

I begin from a feminist parody of the IPCC’s scenario descriptions. I then contrast this parody with some of the epistemological assumptions and prescriptive conclusions upon which the Nobel Peace Prize-winning panel’s Climatological language relies. Parody makes visible the need for feminist theory’s contribution to the climate sciences. The IPCC reports are one of the most prominent and politicized expressions of Climatology. They provide the principal scientific ground for international negotiations, while their writers subject themselves to consensus-based deliberations that are highly problematic to many sciences otherwise reliant upon openness to dissensus and contestation. Ursula Le Guin has claimed that “truth is a matter of imagination” (2012), and Donna Haraway has long valued parody and speculative imaginaries in rethinking epistemological, ontological, ethical, and political commitments (2006, 2015, 2016). Similarly, this paper shows one crucial instance where feminist imaginations can feed into scientific knowledge in vital(ist) ways (Bennett, 2009; Colebrook, 2014). Deploying parody, science fiction, and sarcasm, I attempt to defy the capitalocentrism of Climatology as Futurology. My use of parody acts as a feminist writing strategy (Micciche, 2010, pp. 173–188) that underscores the uncertainty, multiplicity, and openness of our futures, begging the question of why certain capitalist futures imagined by the IPCC are so often taken more seriously than other possible alternatives. What sorts of economic arrangements may be most apt at generating a feminist (ecopolitical) climate? What sorts of roles does technology perform in a feminist climate? What sorts of scientific knowledge production might this call for? While I cannot address these

questions exhaustively here, I would like the following to offer one way to trouble the hegemony of a Climatology that stifles the very possibility of asking them. What new questions and possibilities are permitted thanks to the use of feminist parody? More than a mere critique of the IPCC reports, what follows is a proposal for defying some of the hegemonic assumptions and epistemological procedures that animate many of today's climate debates, making the case for climatologies' need for feminist imaginaries.

Before proceeding any further, I should warn that what follows risks being interpellated, misread as a rejection of technology in general. Indeed, part of the feminist intervention here consists in a denunciation of a certain "technofixery." However, when I use the term *technofix* with a negative valence, it is by no means because of some principled antisience or technophobic stance but rather to provoke the question of what gets to count as technology, let alone the question of dualisms hierarchically opposing "high" and "low" technology, "backward" and "futuristic" approaches, so as to problematize Climatology's "fixing" approach (which posits that industrial, corporate technologies alone will "fix" the climate, taken as a unified problem warranting such fixing and knowable enough to predictably be "fixed," etc.). In other words, I evoke "technofixery" as those technologies meant to (impossibly) "fix" the climate crisis in the sense of sustaining capitalist hegemony, not as a rigid opposition to all that can be read as technological. The feminist parodic approach below challenges the exclusion of technologies of the self and of collective more-than-human, noncapitalist assemblages from what counts as legitimate "technology," proposing instead to "stay with the trouble" (Haraway, 2016), i.e., to assume that no technology is innocent but that some deemed more "realistic" may only be so if reality is conceived solely through a capitalocentric lens.

Capitalocentric Consensus Futurology versus the Feminist Dissenting Imagination

By its own description, the IPCC is “the international body for assessing the science related to climate change.” The United Nations founded it in 1988 “to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation” (IPCC, 2016). As such, it has a crucial impact on how public officials in international summits, along with the broader public, view the state of Scientific knowledge on climate. Synthesizing results generated by the computer models used by Climatology worldwide, the IPCC describes what ecological changes to expect and which directions may be less destructive than others. Similar scenarios run by computer models in different research projects are grouped in what the IPCC calls “scenario families.” These various possible futures share certain common traits, for instance in demographic terms, or based on how reliant they may be on, say, the service industry or so-called renewable energies as opposed to more polluting energy sources. Each of these scenario families is described in a similar language, to enable comparisons.

The IPCC asserts its noncommitment to specific programmatic goals to demonstrate an alleged policy neutrality, so as to retain, in true positivist fashion, a semblance of Scientific objectivity. As they focus on physical Science and the impacts of, as well as adaptation and vulnerability to, climate change, Working Groups I and II of the IPCC especially go out of their way to show that they are not pursuing “political agendas,” that is, pushing for one program or set of policies more than others. The third working group is more explicitly prescriptive and composed of more economists alongside physicists, as it writes the reports on mitigation. Even a cursory reading of Working Group III’s latest report (2014) reveals that two major sets of measures the panel recommends include the creation of carbon trade markets and geoengineering, which shows a general orientation favoring continued

capitalist predominance. However, even there, policy suggestions are advanced individually so as to appear not to offer a wholesale program that might pressure diplomacy.

But the starting point informing the climate-change mitigation recommendations, used by all three working groups, is already symptomatic of the political and economic assumptions Climatology makes. The models imagined and projected to assess climate futures are implicitly capitalocentric, to borrow J.K. Gibson-Graham's adjective (1996). Below is one example of a scenario family description, excerpted from the IPCC reports:

The A1 storyline and scenario family describes a future world of very rapid economic growth, global population that peaks in mid-century and declines thereafter, and the rapid introduction of new and more efficient technologies. Major underlying themes are convergence among regions, capacity building, and increased cultural and social interactions, with a substantial reduction in regional differences in per capita income. The A1 scenario family develops into three groups that describe alternative directions of technological change in the energy system. The three A1 groups are distinguished by their technological emphasis: fossil intensive (A1FI), non-fossil energy sources (A1T), or a balance across all sources (A1B). (IPCC, 2013)

In relative contrast, the B1 scenario family is described as a convergent world with the same global population that peaks in mid-century and declines thereafter, as in the A1 storyline, but with rapid changes in economic structures toward a service and information economy, with reductions in material intensity, and the introduction of clean and resource-efficient technologies. The emphasis is on global solutions to economic, social and environmental sustainability, including improved equity, but without additional climate initiatives. (IPCC, 2013)

The IPCC's presentation of various possible scenarios has certainly had the effect of underscoring the multiplicity of our possible futures:

relatively like-minded demographers and mostly neoliberal-to-Keynesian economists turn out to be capable of imagining several equally possible outcomes. There is something highly valuable in this recognition that in spite of some premature claims celebrating the “end of history” and capitalism’s late 1980s triumph (Fukuyama, 2006), the future—lucky for us—is in fact not set in stone. But the language of markets, efficiency, productivity, and, fundamentally, of economic growth (albeit moderate in some scenarios) highlights the underlying assumption behind all of the scenario families described here: global capitalist hegemony. Several futures are possible—yet we shall assume that they will indefinitely continue to be capitalist. Ultimately, the IPCC scenarios propose a capitalocentric future: they do not consider the possibility (or possible necessity?) of capitalist collapse or the rise of noncapitalist economies.

In contrast, I have crafted a noncapitalist, feminist, more-than-human “scenario (queer) family.” The following Z00 scenario parodically imitates the IPCC’s language and form illustrated above. Parody offers a feminist rewriting strategy (Micciche, 2010, pp. 173–188) by which the copy’s form imitates the supposed “original” form, yet serves a different content that in part clashes with it. The resulting gap causes an uncanny effect and, ideally, a smile or laughter. What follows, then, is certainly playful, but does not merely mock the models with absurd proposals; instead, it opens up the possibility of imagining another order of things and a glimpse at the contingency of the original.

The Z00 storyline and scenario family describes a future world of rapid feminist degrowth and slow living; a global more-than-human population that peaks in mid-century and declines thereafter in favor of queer kinships and generalized access to reproductive autonomy; and the rapid introduction of convivial tools following the abolition of private property as well as the proliferation of do-it-yourself (DIY). Camels, donkeys, feet, and bicycles generalize as more-than-human slower means of transit and companion species. Food production diversifies as a result of a global ban on GMOs and the generalization of subsistence permaculture, indigenous

agricultures, and aquatic polycultures in flooded valleys, decreasing in quantity with the decline in population and simplification/diversification of local diets. Production becomes almost exclusively local and organic, with commodities' value measured (if at all) not by exchange but by the durability and use of objects. Barter and collectivization of needs and goods at local levels replace routine transport over long distances. Major underlying themes are naturecultural bio- and economic diversity, bioregional cooperatives, community building, and more leisure time, with a generalization of participatory, local-democratic, scientific, and artistic practices. By 2101 the terms *growth*, *profit* (in reference to economies), and *capitalist* are facing extinction, mostly found in etymology dictionaries. The Z00 scenario family develops into multiple groups that each describe diverse postcapitalist economies. The multiple Z00 groups are distinguished by their convivial emphasis and how humans spend their liberated time: collective and individual creation of vernacular sciences, art, dance, and music (Z0068X); joyful *farniente* and queer love (Z006Y); and other activities unimaginable to early-twenty-first-century human generations (Z0070Z).

This above is no more a program than the IPCC “scenario family” descriptions. Some may read it as “merely” science-fictional or “utopian.” Yet the point of this parodic, science-fictional rewriting is to underscore that the futures imagined by IPCC scientists themselves are utopian: none entertains the possibility of degrowth and postcapitalist futures. Many environmentalists have affirmed that capitalist growth is increasingly incompatible with human survival,⁵ an impossible direction to sustain—in other words, a dangerous utopia. Beyond—or maybe through—the parodic tone of the above scenario, I quite seriously wish to contrast a postcapitalist perspective (Gibson-Graham, 2006) on climatology with a Climatological, capitalocentric imagination. Opening up possibilities for noncapitalist economic regimes requires the performative staging of such a contrast and the disruption of

assumptions about the (unsustainable) capitalist nature of our future.

I should specify that my goal here is not merely to rewrite or claim to correct the IPCC's scenarios, or to propose some sort of symmetrical opposite to them. Some have already accomplished valuable work underscoring, similarly, that climate models must be more comprehensive, including noncapitalist scenarios even when these may turn out either more authoritarian or more democratic than capitalist ones. In their "Climate Leviathan," J. Wainwright and G. Mann (2013) have imagined four futures corresponding to different economic and political regimes, including a "climate behemoth" where reactionary and nationalistic conservatism (in part what we are currently resisting, i.e., the global rise of nationalist far-right movements) would triumph, as well as a "climate Leviathan" (global green authoritarianism). Alternatively, "climate X" would correspond to a communist version of the new climate regime. The authors claim that "climate Leviathan seems to have come to stand as the most 'practical' response, though many recognize the unlikelihood of its achieving an effective hegemony soon" (p. 15). They write about climate X: "Utopianism? Not necessarily."

In my view, parody and provocation are apt at underscoring this lack of necessity. My goal, again, is not to establish a program. As Michel Foucault writes, "the idea of a program of proposals is dangerous. As soon as a program is invented, it becomes law, and there is a prohibition against inventing" (Foucault, 1997). Besides, countless objections could and should be raised about the Z00 scenario's specifics and its general outline. I have named it Z00, picking a letter at the opposite end of the alphabet from the above-cited capitalocentric IPCC scenarios, for contrast and provocation. The double zeros, mimicking the numbering form of the IPCC scenario families, evoke a new beginning, and could also be read as two letters O, such that the whole might sound like a zoo, evoking the concern for multispecies worlds rather than just human economies. Yet even this name is ironic, precisely because many zoos cage their animals. Noncapitalist scenarios tend to be cast aside, imagined as locked "outside" of what passes for the real world, just like

wild animals are ascribed a constrained heterotopian space (Foucault, 1986). Besides, the Greek etymology of *zoe/zoon* for “living being” can all too easily translate as “animals,” a certainly more-than-human (“more-than” and not “other-than”: humans are animals too) yet zoocentric perspective, obscuring plants, bacteria, etc. One could also object that not knowing the conditions in which companion species like donkeys or camels would help with transport, or that, remembering that bicycles and DIY often stand for the hipster commodification of degrowth and cooptation of alternatives under consumerist banners, nothing guarantees that my unlikely assemblage would indeed be(come) postcapitalist, let alone nonexploitative. All these are highly technological, too; as such, they include all dimensions of the *pharmakon*: simultaneously cure and poison, they offer no absolute guarantees.

But my alternative scenarios’ goal isn’t noncontradiction or perfection. Instead, it is precisely to open up a space in which we might actually entertain and discuss these imperfect yet practical postcapitalist possibilities. What matters with this feminist parodic rewriting is the relation between the scenarios, staging a contrast that raises the question of why one might easily laugh at and/or with a Z00 scenario, though many of its key aspects are concrete, local, accessible, participatory, large and small scale, drawing from plural and contested pasts as well as presents and imagined futures, while the IPCC’s capitalocentric scenarios are presented as a pragmatic and perfectly serious sort of futurity (often the only one). Instead, I play the *idiot’s* game of calling the latter scenario *stupid* (I explain these provocative Stengersian terms below), hoping that this will show climatologies’ need for feminist provocation and imagination.

The IPCC has been praised even by feminist ecosophers such as Emilie Hache as offering a “futurology” allegedly capable of informing “an ethics for the future” (2011). These two phrases are originally philosopher Hans Jonas’s. His *Imperative of Responsibility* (1985) inspired many environmentalist thinkers and activists, insofar as it called for a new ethics surpassing Kantianism to take into account both future human

generations and nonhumans, whose survival is threatened and who lack a voice of their own. However valuable this contribution turned out to be for environmentalism, and while we may join Hache in appreciating the new, future-oriented way of conducting Science the IPCC inaugurated, we may also remember that Jonas's recommendations came with his claims that political leaders should craft their deliberations based on the figure of a future-oriented, benevolent "patriarch" looking after his wife and children (present and future more-than-human generations), after consulting "experts" in the new Science he named "Futurology." If the expertise the IPCC has provided thus far may indeed qualify as Futurology, and if we also recall that, even though the general public has often seized the reports, these are primarily addressed to "policymakers," we may doubt that this should be the object of praise.

The IPCC functions internally on the basis of consensus, compiling Climatological studies worldwide. Therefore, the epistemological procedures it observes seem highly democratic. However, that this panel must commit to consensus in fact impoverishes its reasoning. Futurological consensus erases dissent, flattening knowledge to generate an illusion of sciences speaking univocally. Among others, Gaia theorist James Lovelock, though he problematically made apocalyptic warnings and advocated for geoengineering a few years ago (positions he later retracted—2007, 2010), has rightly stressed that dissensus and openness to contestability make for the production of sounder scientific knowledge than does consensus. Let us add that this pertains to the sciences as it does to politics at large: at stake are different conceptions of democracy, namely agonistic, contestatory versions (e.g., Honig, 1993). The perceived pressure to tighten ranks to denounce "climate skeptics" obscures how clearly politically charged and damaging to pluralism Climatology can be, and how much it marginalizes alternative climate futures. One may laugh at the above mentions of community economies, naturecultural diversity, and queer, more-than-human kinships. But capitalocentric desires for endless growth that inform the IPCC models consensually obviate what could, in the end, be a possible future, all the

while allowing little to no laughter to be directed at unsustainably, capitalocentric futurities made of geoengineering or carbon markets.

In considering the volatility of capitalism, political theorist William Connolly has underscored the need to distinguish between likelihood and possibility (2013). The capitalocentrism of the IPCC scenarios may at first glance seem more *likely*, but my parodic description of a postcapitalist future can become *possible* if we expand our imaginaries (Yusoff & Gabrys, 2011), highlighting already existing alternatives : virtually all of the eclectic assemblages of technologies in the Z00 scenario already exist and are constantly evolving. This imaginative effort may be bolstered by parodic science-fictional rewrites of climatological models, among possible strategies. As the degrowth movement (among other critics of capitalism) has shown (Meadows, 1972; Ariès, 2005; Latouche, 2009; Kallis, 2011), we may well go so far as to point out defiantly that capitalocentric futures are in fact less likely, or quite literally less viable, than postcapitalist alternatives—parody opens the possibility to turn the tables and show the dangerous utopianism of capitalist futurity as well as the potential pragmatism of myriad “other” experiments that are usually marginalized and assumed to be “low-tech” or to belong to an archaic past on a universal developmental timeline.

A feminist climatology does not shy away from contesting the IPCC’s consensus. It dissensually imagines seemingly unlikely futures in order to expand the realm of the possible. As has become increasingly obvious with queer-theory debates on temporality (Edelman, 2004; Halberstam, 2005; Muñoz, 2009; Freeman, 2010), visions of the future operate as normative technologies. With Z00 futures, I propose to playfully conjure the visions of capitalocentric futurology in Climatology’s models that the IPCC reports illustrate.

Geoengineering Stupidity

Let us now turn to the major differences between the IPCC perspective and my own science-fictional yet nonutopian scenario “family,” through

the tropes of Isabelle Stengers's concepts of *stupidity* and *idiocy*. In "Gaia, the Urgency to Think (and Feel)" (2014), Stengers argues that the IPCC's Working Group I's alarm-sounding should be distinguished from Working Group III's recommendations. She in turn sounded the alarm regarding the specter of geoengineering blackmail:

We should certainly not assimilate under the same name, "objective science," all of what the IPCC is producing. While Group I experts get nightmares when they obtain a new understanding of the intricate dynamics of the ice sheets, Group III experts tell no such stories about the protagonists of their scenarios. They tell no stories at all but envisage the costs and benefits of measures to be taken by benevolent states respecting the functioning of the market. When the failure of this business-as-usual approach will be recognized, we may anticipate that it is also among those experts that the possibility of a "good Anthropocene" will take its official roots. It will be claimed that there is no choice but to try and tame Gaia. Geoengineering will be presented as a logical accomplishment in the great history of human emancipation and mastery—and those who resist will be accused of betraying our destiny. The script is already written.

Here Stengers rightly suggests that blackmail and failure have long been the very conditions for the reproduction of capitalist imagination, and that geoengineering is becoming the supposed logical response to climate change, prolonging the dreams of mastering nature that have long plagued Science. I have argued above that the IPCC reports in general—across working groups—express a capitalocentric imaginary. I thus differ slightly from Stengers. Granted this nuance, I will draw from Stengers to critique the particularly hubristic turn that this Climatological perspective has taken, especially with the IPCC's latest assessment report in 2014–15.

The IPCC's recommendations have long proposed to rely upon carbon-trading markets to limit CO₂ emissions. That has worked superbly in China, for instance, where vast fields of windmills have earned

investors lucrative carbon credits, while the way these windmills may eventually be connected to the actual electric grids remains uncertain and ecologically costly (Davidson et. al., 2016). But leaving aside the highly contestable yet “consensual” IPCC idea of remedying a capitalogenic climate crisis with further capitalist ventures in the form of carbon trading, I focus below on a more recent development among the IPCC’s recommendations to then contrast it with my feminist parodic thought experiment.

The IPCC’s 2014 Mitigation Report and 2015 Synthesis Report opened a new chapter in the history of the panel. These embraced geoengineering (in the form of carbon dioxide removal – CDR) technologies as an allegedly compelling “mitigation solution.” The IPCC developed the notion of “overshoot,” accompanied with subsequent deployment of carbon trapping technologies, as one possible path to mitigation. UN climate conferences, following IPCC advice, have gradually and (in)famously generated the threshold of a 2°C increase in global mean temperature as the “acceptable” limit (even though the IPCC also provided evidence that many, often poor, regions of the world would suffer drastically from such an increase). With its fifth assessment report (2015), the panel now entertained possibilities of “temporarily” “overshooting” the 2° target, but eventually compensating in part for this excess with future CDR technologies. “Overshoot scenarios typically rely on the availability and widespread use of BECCS and afforestation in the second half of the century” (p. 12). In other words, this strategy counts on hypothetical geoengineering technologies that have not yet been invented, proven effective, or shown to be without major risks of worsening the situation, let alone ethically acceptable or democratically supported.

Among CDR techniques, the IPCC most seriously considered bioenergy with carbon capture and storage, or BECCS (2014, p. 12). This would consist of growing trees and other carbon-absorbing biomass and then burning it in power plants designed to capture carbon emissions before they reach the atmosphere, supposedly generating energy with

“net zero” emissions while removing greenhouse gases from the atmosphere. Many questions are unanswered regarding BECCS, including where such captures would then be stored, where the immense necessary biomass could be planted, whether such massive land use would not further aggravate climate change (land use already contributes 24% of direct emissions, according to the IPCC), and how leaks from storage would be avoided. Similarly to the ethico-political questions relevant to nuclear waste, one also wonders how humans today could ensure that living beings in the deep future would not be endangered were they to dig the storage open inadvertently, which could cause runaway climate change. Certainly one could object that plants evolved their own natural technology (photosynthesis) to bury carbon in the ground as an integral part of the complex Earth systems within which we live and act. Yet, as the “overshoot” scenario has it, the sort of burial that human industry would perform would be developed over a few decades rather than over the deep time of plant evolution, and would be concentrated in burial sites that, if opened, would leak their carbon all at once: a perfect “runaway climate change” recipe. Thus, both spatially and temporally, the concentration and acceleration at play prompts dark laughter with regard to such technologies, as we humbly admit that plant technology vastly outdoes industrial phantasms.

Time will tell whether hubristic confidence pays off. Let us remain caught up in the same growth-oriented logic and postpone to a hypothetical future the supposed solution for the problem wrought by such logic. Granted, the “solution” itself assumes more TechnoScientific progress and “mastery” of nature (Plumwood, 2002) at the planetary level. Furthermore, one possibility (among many others) that escapes under the IPCC’s capitalocentric blind spots is that further knowledge concerning the technologies imagined could perhaps result in conclusions that such technologies may ultimately be judged too risky and uncertain. Unimaginable for consensual futurology is the possibility that we humans do not and might not ever know enough to tinker helpfully with the global climate. In other words, the specific kind of

Scientific-Technological knowledge at play here refuses to entertain its own (present and future) limits.

In *Aux temps des catastrophes* (2013), Stengers explains that our need to think becomes dangerously incapacitated in the current ecological crisis. She points to the urgent need to name *la bêtise* (translated as “stupidity”). Stengers distinguishes “stupidity” from “dumbness” (the French false cognate of *stupidité*). The former is an active force rather than a stable attribute defining specific individuals. *Bêtise*/stupidity traverses, seizing people and assemblages. Being dumb when confronted with a terrible situation would in contrast take the form of paralysis (the French word for “dumb” shares its root with “stupor”), curtailing action in the face of a larger force. Dumbness engenders numbness. In contrast, and likely more destructively, *bêtise* actively engages forces into actions that do not match, and even worsen, the exigencies of a particular situation.⁶

I contend that CDR technofixes correspond quite precisely to this designation. In Stengers’s view, stupidity currently inhabits those “(ir)responsible” for making decisions.⁷ In the IPCC reports, the potentially helpful and necessary diagnosis of a situation of ecological crisis as requiring rapid, drastic change and stemming from the industrial period contrasts with the incapability to think beyond capitalocentric Futurology led by large-scale Technological “experiments,” top-down policy-making, and technocratic environmentalism.

It does not seem to have occurred to IPCC scientists and economists that, just as not all human history (let alone all Earth history) has been capitalist, neither do all future times have hegemonic capitalism written on them. Thus, technofixes that make humans and many current Earth dwellers dependent on one specific, contingent, and recent economic mode of production may not be acceptable ethically or politically. Here we encounter the very issue I initially staged with the question of technofixery: the issue is not so much with the *techne*, as a bicycle or a social movement’s collective strategy can also be considered forms of technology. The problem lies with the assumptions made about

definitive choices durably committing us and deeming the matter resolved, or deeming the goal to be resolution (the “fixing”), curtailing attempts at posing capitalist economies and their “others” as problems and questions. One common characteristic of virtually all geoengineering techniques is that in order to be implemented, they rely upon major industrial means being sustained. Were geoengineering technology to crash suddenly for whatever reason, if the models were right, such a crash could result in unpredictable change in atmospheric chemistry, which would be potentially vastly destructive for the biota at the time of the accident. Therefore, beginning to rely on such technology may condemn future generations of more-than-human living beings to stick to industrial economies indefinitely, unless they wish to commit mass suicide. Capitalist economies have been oil-dependent for a while now, and geoengineering could further seal an even more profound and durable dependence on industrial economies. In reflecting upon what a convivial (postindustrial, postcapitalist) society would look like,⁸ precursor theorist of degrowth Ivan Illich (2001) critically denounced “radical monopolies.” For instance, a monopoly emerges if only one soda company produces soda, but people who are thirsty may still be able to drink water instead. If, on the other hand, the only available mode of transit in some areas becomes the car, a *commodity* (the car) exercises a “radical monopoly” over the satisfaction of a *need* (mobility). I suggest that geoengineering may be a “hyper-radical monopoly”: even if it “worked,” it could result in making the more-than-human species that currently (struggle to) exist on this planet dependent for their very *condition of existence* on one technological solution that is itself contingent upon a hegemonically industrial *mode of production*. The IPCC’s generous proposals of developing such technology sets up capitalocentric blackmail for generations to come. Having busied itself to speak in one single, consensual voice making a “strong case” for “anthropogenic” (capitalogenic, industriogenic) climate change, the IPCC’s new “overshoot and geoengineer” tack commits present and future humans and many more-than-humans to capitalogenic climates.

This plan assumes full confidence in industrialism and requires indefinite espousal of capitalist modes of production, ignoring the major historical evidence of their technologies' fallibility and economies' volatility.

Great plan! Where we do sign? But of course, consent, now or in the future, is not truly part of the discussion, at least not in any sort of depth, as a Scientifically "consensual" case for diagnosing an "emergency" justifies all sorts of decisions. How future generations of humans and more-than-humans might consent, and how democratic worldwide support might be provided even today, remains a puzzle. Similar arguments to those used for legitimizing nuclear energy inform the IPCC's advocacy of geoengineering. We would surely be invited to trust the experts, once geoengineering techniques are deemed operational; the consensual Futurologists will assure us that the "probability" of an accident is infinitesimal. This *probability* will then be equated to a *risk* (Beck, 1992), with no consideration that risk may be better weighed by taking into account not only probabilities but also the extent of the damage (potentially devastating and planetary, in this case) were the technofixes to fail. Even in the unlikely case that geoengineers invented a technology deemed 99.99% reliable, if the 0.01% chance of failure means potentially eradicating countless species on Earth, would it be ethically sound to proceed? The "stupidity" of probability-based reasoning has tragically been demonstrated by nuclear accidents in Chernobyl and Fukushima. Given, then, the enormous risk involved in geoengineering the climate—which engages a much vaster scale than the regions any given nuclear plant threatens, as well as planetary complex systems we are far from grasping fully—wouldn't taking such a risk require at least *unanimity* among present and future more-than-human species, if it were to be democratically founded at all? How would that be attainable? Additionally, nuclear plant accidents *threaten* the complex Earth systems. BECCS purport to *regulate* those systems, which may require even greater epistemological confidence and vastly broader knowledge and predictability. With these considerations in mind, don't capitalocentric scenarios like the new "overshoot" scenario seem

profoundly utopian, in the most totalizing and dangerous sense of this term? These may indeed become much more laughable (a tragic laughter) and “lower-tech” than my Z00 scenario (queer) family.

Feminist Idiocy

In the 2015 preface to the English edition of *Au temps des catastrophes*, Stengers sarcastically writes:

Today, the grand campaign to deny the problem has run out of breath a little, but the second phase is being prepared. New voices are making themselves heard, asserting that it is impossible to restrict emissions, which in the meantime have exploded. The only solution is geo-engineering. (2015, p. 8)

While geoengineering was but a dark future looming on the horizon when she first composed the book in 2008, as argued above, this technofixery constitutes an instance of what Stengers then characterized as stupidity. As she has already reminded us, there is “no guarantee whatsoever that the sciences, at least as we know them today, are equipped to respond to the menaces of the future” (Stengers, 2009, p. 22). In order to confront IPCC stupidity, we may now invite to the stage yet another Stengersian “conceptual character”—the idiot (2005). Armed with my parodic family scenario and a bit more provocation, I contend that some not-so-*stupid*, though perhaps *idiotic*, feminist sciences and theory may be better “equipped” to think through the “menaces of the future.” The questions raised at the end of the section above are, to an extent, symptomatic of what Stengers calls “idiocy:” namely, they offer welcome pause to think, a mode of address that, however important, is not intelligible to accepted and public discourse, performing a disruptive effect. Such salutary idiocy poses questions heretofore unaddressed by Climatological Futurology.

Stengers describes the idiot as being defined by her resistance to both consensus and urgency:

In the ancient Greek sense, [*idiocy* refers to]...a semi-private language that excludes from a form of communication

characterized by an ideal of transparency and anonymity....[The idiot] is the one who always slows the others down, who resists the consensual way in which the situation is presented and in which emergencies mobilize thought and action. (2005, p. 994)

Thus idiotic interventions disrupt the rush of stupidity, causing pause. While those stressing urgency rush to an “and so,” the idiot demands that we slow down. In the face of the crisis or emergency, s/he proposes the conditions of emergence of critical thought. In fact, it may be precisely when emergency is so saliently felt that we need to elasticize time to make sounder moves. There is a risk of idiocy not being intelligible by the consensual knowledge structures it disrupts. The Greek word *idiot*, evoked above by Stengers, sharing its etymological root with the English word “idiom,” refers to a private, *idiosyncratic* way of thought that struggles to be publicly understood or recognized and may be dismissed by preconceived and accepted views. In spite of this risk, the idiot is valuable insofar as “she demands that we slow down, that we don’t consider ourselves authorized to believe we possess the meaning of what we know” (Stengers, 2005, p. 995). Idiocy, as a form of radical skepticism, an antidote to hubris, underscores the limits of knowledge and does not assume, in the case of climatology for instance, that the climate can be modeled in a sufficiently accurate way to warrant a single solution with a single, sweeping, and mass-scale technological *fix*. The technological practices deployed in an idiotic Z00 scenario are multiple, contestatory, and open-ended struggles rather than fixed ones.

Indeed, the parodic scenario description offered at the beginning of this paper intends such disruption—not only as such, but because of the contrast between the scenarios and the resulting highlighting of some of the immensity of what is left to imagine. In writing a family of scenarios to envision a world beyond the imaginable capitalist futures exclusively considered by mainstream Climatology, this parodic intervention provokes us to wonder whether such complexity could even be calculable under the metrics of current economic laws assumed to track climate change accurately in emissions scenarios. By extension, it

highlights that the capitalocentric models contain a lot of unknowns as well. This is why my Z00 scenario concludes with the qualifying phrase “mostly unimaginable to early twenty-first-century human generations.” From this radically skeptical perspective, we may turn to scientific views that do not presume ecological behaviors to be fully knowable or predictable in the future, as well as economic, social, and political developments producing arrangements beyond the blinders of capitalist economies. The idiotic, parodic scenarist invites and stages disruptive questions not interrogated by capitalocentric imagination: “Do/should we really need/desire endless capitalist growth, anyway?” “Isn’t industrial globalization bound to disappear, just like all economic forms in human history so far, and be replaced by arrangements unfathomable to current generations?” “Can the climate ever be modeled in sufficiently accurate ways to allow us to geoengineer it?” The parodic form, as it mimics and yet subverts, caricaturing the IPCC’s language, performs and provokes idiotic questions: the idiot neither speaks the common language nor shares the common assumptions this language undergirds. Therefore, with parody and critique as allies, the idiot can espouse the IPCC’s turns of phrase but include proposals such as biking, the abolition of private property, or queer more-than-human kinship, opening a space for the uncanny, for laughter, for unfamiliar grounds, and for staging a relation between these imaginaries that defies the presumption that IPCC capitalocentrism would be all that realistic or pragmatic after all. It becomes possible to mock capitalocentrism, perhaps even to dismiss it as dangerously utopian, disconnected from the reality that capitalist growth is unsustainable and destructive.

In contrast to the declarations of an IPCC that synthesizes Climatological research from negotiations seeking consensus within a community of scientists and mainstream economists accountable to the United Nations, an idiotic approach may dissensually compare the mitigation “solutions” proposed by the IPCC to a multitude of existing proposals. This approach foregrounds ongoing attempts at the concerted and participatory proliferation of a new ethics and new modes of living at

various scales, i.e., diverse economies in the here and now (Gibson-Graham, 2011), with present and future generations as a matter of concern (Hache, 2014), “queer kinships,” and more-than-human sympoiesis (Haraway, 2015) contrasting with the language of “population control” typical of the IPCC. Thus I describe the Z00 scenario as one where private property has been abolished and feet and bicycles have taken over as modes of transport, to the detriment of car hegemony. Community economies and indigenous and organic local food production have generalized. Alternatives that today are usually relegated to the margins have instead spread to displace the hegemonic capitalist mode of production from its throne. Some of the key notions informing this scenario include community economies, as advocated, for instance, by J.K. Gibson-Graham: i.e., economies in which surplus value generated by workers is shared instead of being appropriated by a small minority owning the means of production. Conviviality (Illich, 2001; Humbert et al., 2011) and degrowth (Ariès, 2005; Latouche, 2009; Kallis, 2011) replace business as usual. Taken together, these assemblages, forming “eco-egalitarian resonance machines” (Connolly, 2008), are indeed elaborate collective and subjective technologies no less legitimate than those geoengineering “emergency” measures in “overshoot scenarios” considered so “high-tech.”

Here it may be objected that my Z00 climate scenario risks setting up a problematic binary that merely opposes Climatology’s futurity with a romantic “return” to “other,” supposedly “low-tech” approaches. But there is a vast difference between a “return” narrative, a binary opposition, and an intervention highlighting what is made unthinkable by a specific knowledge’s hegemonic status. The scenario above assembles a patchwork of approaches that do not always speak to one another, from degrowth and conviviality, ecosophical and ecopolitical movements more present in Europe and Latin America (D’Alisa et al., 2014), to climate justice, feminist, and queer ecologies language, as well as Indigenous and non-Western views and practices, all of which are already in existence and in movement. Thus, far from the retrogressive imposition of

an alleged binary opposite, such an assemblage stages a pluralistic defiance to hegemonic, contradictory, impossibly capitalocentric consensus Futurology; it foments multiplicities that contrast and challenge contemporary hegemonic economies: the idiot disrupts the supposed anonymity and transparency of public discourse (usually assumed to be one).

Spatially, the parodic ZOO scenario incites questioning of what counts as large- versus small-scale experimentation: aren't the noncapitalist assemblages evoked here already widespread? Temporally, contrary to a possible (mis)reading in terms of "return" and mere reevaluation of "low-tech" approaches, the parodic idiot's tone incites defiance regarding normative, linear temporalities that assume "forward" or "ahead." This presumption that low-tech and diverse postcapitalist economies are "backward" or regressive indeed assumes that "modernity" has so far been moving "forward" (Latour, 2012) and that "forward" has meant "better"; it denies, in an all-too-familiar Western colonial gesture, the coeval nature of these "Other" modes (Fabian, 2014). Similarly, distinctions cannot be reduced to a binary opposition between capitalist accelerationism and slow movements: indeed, the slowness of more ecologically bearable transport or food may result in denser convivialities and faster critical thinking. The idiot's pause is one that makes room for an acceleration of the pace of thought and the fast, unpredictable proliferation of possibilities. Their exclusion from the realm of the legitimately "technological" is an indication of what is taken to be *likely*, given hegemonic yet contingent economic systems, more than of what is *possible* to live and imagine. Parody also opens up an occasion to laugh at Western, all-too-modern magic (capitalocentric) wand⁹ hubris as ultimately less, not more, pragmatic than the myriad alternatives already deployed by so many who are allegedly on the margins but are potentially so central to "staying with the trouble" (Haraway, 2016).

The same sort of idiotic questions erupt from this parody when it comes to "low" versus "high" tech: why would DIY or bicycling count as "low-tech" while geoengineering counts as "high," and why would "high"

signify a “superior,” more “advanced,” or more valuable (valued) way on a vertical axis representing hierarchy? The laughter produced by parody offers a glimpse at the answer, which has to do with exclusions of noncapitalist knowledges and practices (themselves not innocent or pure, but perhaps offering a different order and economy of power). Especially when the lowest-denominator resistances call on us to “unify” and “march for Science” while we hope to defend, mobilize, and deploy different, pluralistic sciences, and when vital nuances are flattened by perceptions of an allegedly “common” enemy, it matters greatly that we highlight more complex lines distinguishing plural and contested commitments to the sciences and politics, as well as the politics of Science. The climate-change-as-corporate-opportunity vision of Al Gore (Gore, 2013, p. 592; Luke, 2015), the investments of the climate-skeptic oil industry into geoengineering research (Hamilton, 2013), and the studies on “aerosol injections” currently conducted at Harvard with the United Nations’ geoengineering governance initiative’s blessing make strange bedfellows these days. It matters which sciences and which technologies get to be defended, for which ones we may march and to which feminism contributes, distinguishing also against which Science we might in fact protest, all while avoiding dualistic critique.

Feminist parody defies Climatological stupidity by raising this sort of idiotic objection, potentially producing different climes. Parody has the advantage of provocation, partly compensating for the risk run by the idiot of not being heard—though, even with parody, the risk of not being understood remains. I do not expect all the suggestions above to be fully understood. However, I hope to have shown that, where climatology’s capitalocentric gaze reads the post-1750 past as producing “anthropogenic” climate change, we may instead critique capitalogenic, industriogenic, plantationogenic climates and that, where Climatological Futurology assumes all futures shall be capitalist, we may laugh a feminist laughter that underscores other possible climates.

Notes

¹ One would be hard-pressed to exhaustively synthesize these critiques, from Donna Haraway and her creative proliferation of terms (the Chthulucene, plantationocene, industriocene, capitalocene, etc—2015), to Giovanna DiChiro’s note that the environmental justice movement has not been taking on this universalizing notion and its masking of unequal responsibilities and impacts. Stacy Alaimo has critically engaged (2016) post-colonial historian Dipesh Chakrabarty (2009)’s conception of the disembodied “human” as a “geological force,” and has contested his claim that experiencing “ourselves” as a species is an unprecedented situation. Isabelle Stengers’ questioning of the “troubling abstraction,” “Man” (2015), performs similar critique. Though it is one of the most vibrantly responsive, feminist theory isn’t alone in objecting to the concept of Anthropocene. Examples beyond feminism include the term “capitalocene,” developed in J.W. Moore’s 2016 anthology, or ecology theorist Dorion Sagan’s questioning of anthropocentric humans’ naming an epoch, when the massive oxygen pollution produced by cyanobacteria eons ago, making the proliferation of life possible, has yet to be granted the title of “Cyanocene” (2017).

² See for instance Bill McKibben’s bellicose rhetoric and call for unity (2016).

³ Here I follow, as do the other essays in this special issue, the distinction made by Sandra Harding between Science and the sciences (2008), extending it to Climatology and climatologies.

⁴ Many climate justice voices have denounced the inadequate character of the response to the climate crisis on the part of governments, as well as the connections between big oil and funding of climate skeptic research. For lack of possibly reviewing exhaustively this literature, one example includes research reports and position papers published as early

as 1999 by Bruno, Karlner and Brotsky, or more recently, the assemblage of manifestoes and position papers published in the occasion of the COP21's preparation in New York, titled "What Now for Climate Justice?" (Bond et. al, 2014). However in both of these instances as in much of the literature, if the COPs (the UNFCCC's annual conventions on climate change) are denounced as insufficient, ineffective, and tied with big money, usually the IPCC is cited in uncritical manners— Bruno et. al. mentioned the IPCC in passing describing it as "a large group of the best climate scientists" (1999, p. 12). The IPCC is taken as a major reference (which it certainly is) and its reports as the needed authority to ground radical environmentalist claims (which is problematic in my view). This paper challenge this authority by, rather than assuming climate justice needs Climatology, showing that imagining climate futures requires feminist insight.

⁵ For example, as early as 1996, economists H.E. Daly and K.N. Townsend's "impossibility theorem."

⁶ An English edition of Stengers's book, *In Catastrophic Times: Resisting the Coming Barbarism*, came out in 2015. However, here I use the French text, because of the nuance explained here between *stupidité* (dumbness) and *bêtise*(stupidity). The latter, one may add, also connotes beastly (*bête*) recklessness, a more-than-human resonance that does not lack irony.

⁷ Here lies another reason why I turn to the original French text. There Stengers refers with great irony and even sarcasm to *nos responsables* ("our public officials," "those in charge of/responsible for us") and contrasts them with objectors to growth like herself, activists, and some scientists who may be deemed "irresponsible" from what I (following Gibson-Graham) call a capitalocentric viewpoint. However, in the English text, the translation of this term as "our guardians" causes a loss of the sarcastic and defiant tone.

⁸ In Illich's "convivial society," tools would serve humans rather than the opposite, a problematically dualistic human/technological vision I cannot fully develop here. However, I use the term above because it resonates with my Z00 scenario, in a loose interpretation of Illich as preoccupied with autonomy and solidarity.

⁹ Political theorist Timothy W. Luke wrote of geoengineering as a would-be "miracle cure" as early as 2010.

References

- Alaimo, S. (2016). *Exposed*. Minneapolis, MN: University of Minnesota Press.
- Altvater, E. (2016). The Capitalocene, or geoengineering against capitalism's planetary boundaries. In J.W. Moore (Ed.), *Anthropocene or Capitalocene?* (pp. 138-154). London, UK: Kairos Books.
- Ariès, P. (2005). *Décroissance ou barbarie*. Paris, France: Golias Editions.
- Beck, U. (1992). *Risk society: Towards a new modernity* (Vol. 17). Thousand Oaks, CA: Sage.
- Bennett, J. (2009). *Vibrant matter: A political ecology of things*. Durham, NC: Duke University Press.
- Bond, P., M. Dorsey, J. Foran, P. Sabido, J. Shultz, N. Thanki, B. Tokar, R. Widick, E. Williams, & L. Yona. (2014). *What now for climate justice?* International Institute of Climate Action and Theory. Retrieved from <http://www.iicat.org/wp-content/uploads/2015/02/What-Now-For-Climate-Justice-IICAT-2014.pdf> on April 10th 2017.
- Bruno, K., J. Karliner, & C. Brotsky. (1999). *Greenhouse gangsters vs. climate justice*. Transnational Resource and Action Center (TRAC). San Francisco.
- Buck, H.J., A.R. Gammon, & C.J. Preston. (2014). Gender and geoengineering. *Hypatia*, 29(3), 651–669.
- Caillé, A., M. Humbert, S. Latouche, & P. Viveret. (2011). *De la*

convivialité. Dialogues sur la société conviviale à venir. Paris, France: La Découverte.

Chakrabarty, D. (2009). The climate of history: Four theses. *Critical Inquiry*, 35(2), 197–222.

Colebrook, C. (2014). Queer vitalism. In *Sex after life: Essays on extinction* (Vol. 2). London, UK: Open Humanities Press.

Connolly, W.E. (2008). *Capitalism and Christianity, American style.* Durham, NC: Duke University Press.

— — — (2013). *The fragility of things: Self-organizing processes, neoliberal fantasies, and democratic activism.* Durham, NC: Duke University Press.

Crutzen, P.J. (2002). Geology of mankind: The Anthropocene. *Nature*, 415: 23.

— — — (2006). Albedo enhancement by stratospheric sulfur injections: A contribution to resolve a policy dilemma? *Climatic Change*, 77(3), 211–220.

D’Alisa, G., F. Demaria, & G. Kallis. (2014). *Degrowth: A vocabulary for a new era.* New York, NY: Routledge.

Daly, H. E. (2010, March). From a failed growth economy to a steady state economy. *Solutions*, 1(2), 37–43.

Daly, H.E., & Townsend, K.N. (1996). *Valuing the earth: Economics, ecology, ethics.* Cambridge, MA: MIT Press.

Davidson, M. R., D. Zhang, W. Xiong, X., Zhang, & V.J. Karplus. (2016). Modelling the potential for wind energy integration on China’s coal-heavy electricity grid. *Nature Energy*, 1, 160–86.

Deleuze, G., & F. Guattari. (2013). *Mille plateaux: Capitalisme et schizophrénie*, 2. Paris, France: Minuit.

DiChiro, G. (2016). Environmental justice and the Anthropocene meme. In T. Gabrielson, C. Hall, J.M. Meyer, & D. Schlosberg (Eds.), *The Oxford Handbook of Environmental Political Theory.* Oxford UK: Oxford

University Press.

Edelman, L. (2004). *No future: Queer theory and the death drive*. Durham, NC: Duke University Press.

Fabian, J. (2014). *Time and the Other: How anthropology makes its object*. New York, NY: Columbia University Press.

Foucault, M. (1997). Friendship as a way of life. In: *Foucault Live: Collected Interviews, 1961--1984*, Semiotext(e), Los Angeles, CA. pp. 308-313.

Foucault, M., & J. Miskowiec. (1986). Of other spaces. *Diacritics*, 16(1), 22-27.

Freeman, E. (2010). *Time binds: Queer temporalities, queer histories*. Durham, NC: Duke University Press.

Fukuyama, F. (2006). *The end of history and the last man*. New York, NY: Simon and Schuster.

Gibson-Graham, J.K. (1996). *The end of capitalism (as we knew it): A feminist critique of political economy*. Minneapolis, MN: University of Minnesota Press.

— — — (2006). *A postcapitalist politics*. Minneapolis, MN: University of Minnesota Press.

— — — (2011). A feminist project of belonging for the Anthropocene. *Gender, place and culture*, 18(1), 1-21.

Gore, A. (2013). *The future*. New York, NY: Random House.

Hache, É. (2014). *Ce à quoi nous tenons*. Paris, France: Découverte.

Halberstam, J. (2005). *In a queer time and place: Transgender bodies, subcultural lives*. New York: NYU Press.

Hamilton, C. (2013). *Earthmasters: The dawn of the age of climate engineering*. New Haven, CT: Yale University Press.

Haraway, D. (2006). A cyborg manifesto: Science, technology, and

socialist-feminism in the late 20th century. In J. Weiss, J. Nolan, J. Hunsinger, & P. Trifonas (Eds.), *The international handbook of virtual learning environments*, pp. 117-158. Leiden, Netherlands: Springer.

— — — (2015). Anthropocene, Capitalocene, Plantationocene, Chthulucene: Making kin. *Environmental Humanities*, 6(1), 159-165.

— — — (2016). *Staying with the trouble: Making kin in the Chthulucene*. Durham, NC: Duke University Press.

Harding, S. (2008). *Sciences from below: Feminisms, postcolonialities, and modernities*. Durham, NC: Duke University Press.

Hird, M.J. (2004). Naturally queer. *Feminist Theory*, 5(1): 85–89.

— — — (2016). *Queering the non/human*. New York, NY: Routledge.

Honig, Bonnie (1993). *Political theory and the displacement of politics*. Ithaca, NY: Cornell University Press.

Illich, Ivan (2001). *Tools for conviviality*. New York, NY: Marion Boyars.

Intergovernmental Panel on Climate Change. (2014). *Mitigation of Climate Change. Working Group III Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK: Cambridge University Press.

Intergovernmental Panel on Climate Change. (2014b). *Climate change 2014: Synthesis report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK: Cambridge University Press.

Intergovernmental Panel on Climate Change. (2014c). *Climate change 2013: The physical science basis: Working Group I contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK: Cambridge University Press.

Intergovernmental Panel on Climate Change. (2014d). *Climate change 2014: Impacts, adaptation, and vulnerability. Working Group II contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK: Cambridge University Press.

Jonas, H. (1985). *The imperative of responsibility: In search of an ethics*

for the technological age. Chicago, IL: University of Chicago Press.

Kallis, G. (2011). In defence of degrowth. *Ecological Economics*, 70(5), 873–880.

Latouche, S. (2009). *Farewell to growth*. London, UK: Polity.

Latour, B. (2012). *We have never been modern*. Cambridge, MA: Harvard University Press.

Le Guin, U.K. (2012). *The left hand of darkness*. London, UK: Hachette UK.

Lovelock, J. (2007). *The revenge of Gaia: Earth's climate crisis and the fate of humanity*. New York, NY: Basic Books.

— — — (2009). *A final warning: The vanishing face of Gaia*. New York, NY: Penguin.

Luke, T.W. (2010). Geoengineering as global climate change policy. *Critical Policy Studies*, 4(2), 111–126.

— — — (2015). The climate change imaginary. *Current Sociology*, 63(2), 280–296.

McKibben, B. (2016, August 15). We need to declare war on climate change. *New Republic*. Retrieved from <https://newrepublic.com/article/135684/declare-war-climate-change-mobilizewwii>.

Meadows, D H., Meadows, D.L., Randers, J. & Behrens, W. W. (1972). *The limits to growth*. New York, NY: Signet.

Micciche, L. (2010). *Writing as feminist rhetorical theory*. Pittsburgh, PA: University of Pittsburgh Press.

Moore, J.W. (2016). *Anthropocene or Capitalocene? Nature, history, and the crisis of capitalism*. London, UK: Kairos Books.

Mortimer-Sandilands, C., & B. Erickson. (2010). *Queer ecologies: Sex, nature, politics, desire*. Bloomington, IN: Indiana University Press.

Muñoz, J.E. (2009). *Cruising utopia: The then and there of queer futurity*.

New York, NY: NYU Press.

Plumwood, V. (2002). *Feminism and the Mastery of Nature*. New York, NY: Routledge.

Sagan, D. (2017). Beautiful monsters: Terra in the Cyanocene. In S. Tsing et al. (Eds.), *Arts of Living on a Damaged Planet* (pp. M169-M174). Minneapolis, MN: University of Minnesota Press.

Stengers, I. (2005). The cosmopolitical proposal. In B. Latour & P. Weibel (Eds.), *Making things public: Atmospheres of democracy* (pp. 994-1015). Cambridge, MA: MIT Press.

— — — (2013). *Au temps des catastrophes: résister à la barbarie qui vient*. Paris, France: Découverte.

— — — (2014). Gaia: The urgency to think (and feel). In *The Thousand Names of Gaia: from the Anthropocene to the Age of the Earth*. Conference, Rio de Janeiro. Retrieved from <https://osmilnombresdegaia.files.wordpress.com/2014/11/isabelle-stengers.pdf>

— — — (2015). *In catastrophic times: Resisting the coming barbarism*. London, UK: Open Humanities Press.

Wainwright, J., & Mann, G. (2013). Climate leviathan. *Antipode*, 45(1), 1-22.

Yusoff, K., & J. Gabrys. (2011). Climate change and the imagination. *Climate Change*, 2(4), 516–534.

Bio

Claire Brault is a Postdoctoral Fellow at Brown University. Before completing her PhD in Political Science at the University of Massachusetts, Amherst, Claire Brault earned her BA and her MA in Law and Political Studies from the University of Rennes, in her native Brittany (France). Her work draws from a number of disciplines and interdisciplinary fields: Environmental Political Theory, Feminist Theory, Feminist Science and Technology Studies, Ecocriticism